

Amendments to the Drawings:

The attached sheet of drawings, which includes Figures 8A-8B, replaces the original sheet including Figures 8A-8B.

In the attached sheet of drawings, we have amended Figure 8A by including the reference numeral 807 for the horizontal line in between horizontal lines 806 and 808 and by including the reference numeral 803 for the vertical line in between vertical lines 802 and 804. The annotated sheet shows hand-drawn changes that corresponds to the changes shown in the attached formal replacement sheet.

Attachments at end of paper: Replacement Sheet
Annotated Sheet Showing Changes

REMARKS/ARGUMENTS

This is a response to the Office Action of May 2, 2007, in which the three-month term for response was August 2, 2007. Accordingly, this response is accompanied with a request for a one-month extension of time along with the required fees.

Amendments to the Specification

In this response, paragraph 6 of the specification has been amended to correct a typographical error. Also, in this response, paragraphs 37-39 and 45 of the specification have been amended which inadvertently had the character "_" in place of the triangle symbol "Δ" due to software text-conversion problems. Paragraphs 4 and 6 have also been amended to correspond with the claim amendments made herein. These amendments do not add any new matter.

Amendments to the Figures

Figure 8A has been amended by including the reference numeral 807 for the horizontal line in between the horizontal lines 806 and 808 and by including the reference numeral 803 for the vertical line in between the vertical lines 802 and 804. These amendments are obvious corrections and thus do not constitute new matter.

Amendments to the Claims

In this response, claims 1, 3, 6 and 13-15 have been amended. Claim 2 has been cancelled without prejudice. New claims 16-33 have been added. Accordingly, this response is accompanied with payment for 13 extra dependent claims at the large entity rate.

Claim 1 has been amended to recite that, in step 1, at least some of the associated areas overlap with one another and to recite the two steps recited in originally filed claim 2. Support for these claim amendments are in paragraphs 44 to 50 and Figs. 6, 8a and 8b in the application as originally filed.

The dependency of claim 3 has been amended due to the cancellation of claim 2.

Claim 6 has been amended to recite that the means for associating areas does so such that at least one of the areas overlap with one another. Claim 6 has also been amended to improve readability. Support for the claim amendments are in paragraphs 44 to 50 and Figs. 6, 8a and 8b in the application as originally filed.

Claims 13 and 14 have been amended to refer to the antecedent "one or more touch interfaces".

Claim 15 has been amended to improve readability.

New claims 16 and 17 correspond to originally filed claims 13 and 14 respectively.

New claim 18 recites that, for at least one particular letter, the associating step comprises associating an area of said touch interface with said particular letter by bounding said area by the horizontal centers of adjacent letters on the same row as the particular letter, and by the vertical centers of adjacent letters on upper and lower adjacent rows. New claim 20 corresponds to new claim 18. Support for these claims is in paragraph 49 and Figure 8a of the application as originally filed.

New claim 19 recites that, for at least one particular letter, the associating step comprises associating an area of said touch interface with said particular letter by joining the centers of letters nearest to the particular letter. New claim 21 corresponds to new claim 19. Support for these claims is in paragraph 50 and Figure 8b of the application as originally filed.

New claim 22 recites a mobile electronic device that comprises one or more touch interfaces configured to display one or more rows of letters and receive a touch by a user; and a microprocessor configured to associate areas of the one or more touch interfaces with the letters such that each area is associated with only one letter and at least some of the areas overlap with one another. Claim 22 further recites that the microprocessor is configured to identify which letters are associated with the areas of the one or more touch interfaces that include a location of the touch. Support for this claim is in at least paragraphs 4, 6 and 43 of the application as originally filed.

New claims 23 to 31 correspond to claims 7 to 15 respectively. New claims 32 to 33 correspond to claims 20 and 21 respectively.

Claim Rejections – 35 USC § 112

On page 2 of the Office Action, the Examiner rejected originally filed claim 1 under 35 USC 112, first paragraph, because the method in this claim consisted of a single step: “overlapping areas of a touch interface of a mobile electronic device”, and thus is interpreted as a single means/single step claim under MPEP 2164.08(a).

In response, the Applicant has amended claim 1 to recite more than one step.

On page 3 of the Office Action, the Examiner rejected originally filed claim 9 under 35 USC 112, first paragraph, as failing to comply with the enablement requirement. The Examiner argued that this claim contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In particular, the Examiner argues that it is not explained how one touch interface can be two or more touchpads.

In response, the Applicant respectfully submits that paragraph 25 in the application as originally filed describes that the one or more touch interfaces can be rows of touchpads 104 as illustrated in FIG. 1, which shows three rows of touchpads, and that the touchpads can be capacitive or resistive touchpads. The Applicant submits that one skilled in the art knows how to implement such touchpads. Accordingly, the Applicant respectfully submits that the application describes the subject matter recited in claim 9 in such a way to enable one skilled in the art to implement the claimed features.

Claim Rejections – 35 USC § 102

In sections 2 and 3 of the Office Action, the Examiner rejected claims 1-7, 9, 10, 12, and 15 under 35 USC 102(e) as being anticipated by Chua (US 2004/0183833 A1). In particular, the Examiner argues that for claim 1, Chua teaches a method comprising associating overlapping areas of a touch interface of a mobile electronic device with letters such that each area is associated with only one letter (see page 2, paragraph 19 in Chua).

In response, the Applicant respectfully submits that Chua teaches a device with a virtual keyboard and a touch screen, with individual virtual keys having their own representative positions. In particular, Chua teaches that, during a selection operation to select a key, the area of the touch screen that is touched by the user becomes the selected position. The distance between the selected position and adjacent representative positions of keys is used to decide a first set of candidate keys, which are then used to provide a list of potential words that would result from the input of any one of those keys. A list of these candidate words is then produced and displayed based on the frequency of use of these words and the distances between the selected position and the representative position of the keys. Chua further teaches that once a key is confirmed as having been selected, the offset between the selected position and the representative position of that key is used to re-calibrate that representative position. This is described in the abstract of Chua.

The Applicant also refers to paragraph 19 on page 2, which is the section cited by the Examiner against claim 1 of the subject application, and submits that Chua describes a virtual keyboard 20 that is displayed in the virtual keyboard area 14 and is made up of a number of individual selectable portions in the form of virtual keys 22, each of which has its own display area. Chua teaches that there are separate keys 22 for every letter of the alphabet (typically in QWERTY arrangement) and for numbers 0-9 and that there are also keys 22 for punctuation marks, some accented letters, formatting keys, etc.

The Applicant further refers to Figure 1, which accompanies the description in paragraph 19, and Figure 3, which shows a magnified view of the virtual keyboard and is further described in paragraph 24 of Chua. In both of these Figures, and the corresponding paragraphs, Chua clearly shows that each area associated with a letter is well defined and separate from other associated areas. There is no overlap of these associated areas. Rather, these areas are simply laid out in an adjacent manner such that they simply abut with one another in a non-overlapping fashion.

Accordingly, the Applicant respectfully submits that there is no teaching in paragraph 19 or in Figures 1 and 3 of Chua of associating areas of a touch interface with letters such that each area is associated with only one letter and at least some of the associated areas overlap with one another, as is currently recited in claim 1 of the subject application.

The Applicant also refers to paragraphs 28 to 29 in Chua in which Chua is describing how to determine appropriate candidate keys for what the user intended based on receiving a touch from the user. In particular, Chua refers to keys being adjacent to one another (see the 6th line in paragraph 28, the 2nd line in paragraph 29).

The Applicant further refers to the passage in the 1st to 6th lines of paragraph 30, in which Chua describes selecting the key in which the selected position falls, working out the two closest sides of that key and including other keys that are in contact with any part of those two sides. In the passage in the 6th to 9th lines of paragraph 30, Chua

teaches an alternate method of selecting the candidate keys which consists of dividing the keys into quarters and selecting the keys adjacent to the key quarter in which the selected position falls.

Furthermore, the Applicant refers to paragraph 62 in which Chua goes into detail with regards to the key layout of Figure 3 and describes how the keys abut one another and also describes the shared boundaries of the "g" and "h" keys and the "y" and "h" keys.

The Applicant submits that the sections of Chua highlighted in the three previous paragraphs clearly teach away from overlapping areas associated with letters since Chua refers to keys being adjacent to one another, abutting one another or sharing boundaries. In contrast, claim 1 of the subject application recites associating areas of a touch interface of a mobile electronic device with letters such that each area is associated with only one letter and at least some of the associated areas overlap with one another. This feature is described in paragraphs 36, 44, 49 and 50 as well as Figures 4, 6, 8a and 8b in the application as originally filed. The Applicant respectfully submits that Chua does not teach this feature.

In addition, the Applicant respectfully submits that the fashion in which Chua determines which key the user intended to select does not support overlapping areas associated with letters. In paragraph 27, Chua teaches that a processor decides appropriate candidate keys for what the user intended (i.e. the touched location which is referred to as the selected position) based on calculations of the distances from the selected position 52 to representative positions 50t, 50y, 50g, 50h of the adjacent keys 22 (see Figure 3 in Chua). Once again, Chua refers to adjacent keys, which teaches away from overlapping areas associated with letters. Furthermore, if Chua taught overlapping areas associated with letters, which he does not, if the selected position was covered by overlapping areas associated with two or more letters, then how would Chua select the adjacent keys? The Applicant respectfully submits that Chua does not describe this situation at all, which further supports the fact that Chua does not teach overlapping areas associated with letters. Chua simply describes using a pure distance based

method to determine the candidate keys, which is further supported by paragraphs 28 and 29 of Chua, which describe not including keys that are more than a predetermined distance away from the selected position.

In contrast, claim 1 of the subject application recites detecting a location of a user's touch on the touch interface, and for each area of the touch interface which includes the location, identifying the letter associated therewith. This is described in paragraphs 33, 47, and 49-50 of the subject application as originally filed. The Applicant respectfully submits that this is different than the technique taught by Chua.

The Applicant submits that similar arguments can be made for independent device claims 6 and 22.

Accordingly, the Applicant respectfully submits that claims 1, 6 and 22 are novel and inventive over the cited reference and should be allowed. Furthermore, since for at least the reason that claims 2 to 5, 7 to 21 and 23 to 33, depend either directly or indirectly from one of claims 1, 6 and 22, the Applicant respectfully submits that these claims should also be allowed.

In addition, the Applicant makes the following observations.

With respect to claim 12, the Examiner argued that Chua describes that for at least one particular letter, an area of the touchscreen associated with the particular letter is overlapped by an area of the touchscreen associated with a different letter of an adjacent row (paragraphs 19, 20 and 24 on page 2 of Chua).

As explained previously, the Applicant respectfully submits that Chua does not teach overlapping areas associated with a letter and that this claim should be allowed.

In sections 4 and 5 of the Office Action, the Examiner rejected claims 13 and 14 under 35 U.S.C. 103(a) as being unpatentable over Chua. With regards to claim 13, the

Examiner acknowledged that Chua does not disclose that, for at least one particular letter, an area of the touch interface associated with the particular letter is completely overlapped jointly by a portion of an area of the touch interface associated with an adjacent letter to the left of the particular letter and by a portion of an area of the touch interface associated with an adjacent letter to the right of the particular letter.

With regards to claim 14, the Examiner acknowledged that Chua does not explicitly disclose that for at least one particular letter, an area of a touch interface associated with the particular letter is partially overlapped by a portion of an area of the touch interface associated with an adjacent letter to the left of the particular letter and by a portion of an area of the touch interface associated with an adjacent letter to the right of the particular letter.

However, with regards to both claims 13 and 14, the Examiner argued that Chua discloses allowing different letters being represented in overlapped area (see page 2, paragraph 24 in Chua) and that it would have been obvious to one having ordinary skill in the art to allow complete or partial overlapping and that one would have been motivated to allow overlapping to compress the size of data on the display screen.

In response, with respect to claims 13 and 14, as explained previously, the Applicant respectfully submits that Chua does not disclose allowing different letters to be represented by overlapping areas and that there is nothing in the cited references that would have motivated one skilled in the art to think of overlapping areas associated with keys to compress the size of data on the display screen. Furthermore, one skilled in the art would not easily think to overlap the areas in the ways recited in claims 13 and 14 of the subject application.

With respect to claims 8 and 11, the Examiner rejected these claims under 35 U.S.C. 103(a) as being unpatentable over Chua in view of Moon et al (US 6259436 B1). In particular, the Examiner acknowledged that Chua does not disclose that the rows of letters are spaced at a sufficient vertical distance that there is no ambiguity as to which


row of letters is being touched. However, the Examiner argued that Moon discloses an apparatus and method for determining a selection of touchable items on a computer touchscreen by an imprecise touch with sufficient space on a touchscreen and or keyboard (referring to column 4, lines 41-49 and column 5, lines 1-15 in Moon), and that it would have been obvious to one having ordinary skill in the art at the time of the invention to also provide sufficient space on a keyboard of Chua.

In response, the Applicant has reviewed the passages in Moon that were cited by the Examiner and the remainder of the description of Moon and could not find a teaching of spacing the rows of letters are at a sufficient vertical distance such that there is no ambiguity as to which row of letters is being touched as claimed in claims 8, 11, 24 and 27 in the subject application.

Conclusion

In view of the foregoing comments, it is respectfully submitted that the application is now in condition for allowance. The Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If the Examiner has any further concerns regarding the language of the claims or the applicability of the cited references, the Examiner is respectfully requested to contact the undersigned at 416-957-1603.

Respectfully submitted,
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Attachments